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PN - JP9005362 A 19970110  
PD - 1997-01-10  
PR - JP19950150693 19950616  
OPD - 1995-06-16  
TI - WAVEFORM DETECTOR AND DETECTION METHOD  
AB - PURPOSE: To obtain a waveform detector which can detect an AC waveform accurately. CONSTITUTION: An AC voltage waveform is inputted through an input means, i.e., a PT1, and passed through a low-pass filter 2 for removing high frequency components except those on the order of 50Hz. The AC input voltage waveform is sampled for 50ms at a clock of 25.6kHz from a sample clock output circuit 5, thus obtaining a sample of 2.5 periods. Two zero-cross are then determined, based on the sampled data, and a half period is calculated followed by calculation of frequency. A decision is made whether the calculated frequency is higher than 49Hz but lower than 51Hz and the data is invalidated if the frequency is lower than 49Hz or higher than 51Hz. Subsequently, resampling is repeated 512 times using Newton interpolation until the sampling interval becomes 1/512 of a period, thus calculating a resampling data. The resampled data is subjected to fast Fourier transform through an FFT processing means thus determining the content rate of harmonics in power system and a reverse effective value.  
IN - YOSHIDA KAZUYOSHI; WAKU KOICHI; OSHIRO MORIYASU; HOTTA MASAFUMI; KAMIO TAKESHI  
PA - KOYO DENKI; TOKYO ELECTRIC POWER CO; USC KK  
IC - G01R19/00; G01R13/20; G01R13/34; G01R23/16; G01R23/20; G01R29/00

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TI - Waveform detector for electric power system - in which first sampling data is resampled using Newton interpolation at sampling interval of about  $1/2n$  cycles of frequency and second sampling data is computed  
PR - JP19950150693 19950616  
PN - JP9005362 A 19970110 DW199712 G01R19/00 007pp  
PA - (KOYO-N) KOYO DENKI KK  
- (TOEP) TOKYO ELECTRIC POWER CO INC  
- (USGU-N) USG KK  
IC - G01R13/20 ;G01R13/34 ;G01R19/00 ;G01R23/16 ;G01R23/20 ;G01R29/00  
AB - J09005362 The detector has an input unit (1) through which a voltage or current waveform of a testing object is fed. A LPF (2) eliminates the high frequency components from the input waveform. A first sampling unit (12) performs sampling on the input voltage waveforms and forms a first sampling data. A zero cross calculation unit (13) computes the multiple zero cross points based on the data obtained before carrying out code inversion of the first sample data and the data after code conversion.  
- A resampling unit (14) computes a second sample data by resampling the first sample data using Newton interpolation at sampling interval of about  $1/2n$  cycles of frequency. A FFT processing unit (15) carries out Fourier transformation of the resampled data.  
- ADVANTAGE - Enables measurement of harmonic factor of electric power system. Enables correct detection of AC waveform by carrying resampling of first sampling data and thereby forming second sampling data.

- (Dwg.1/8)

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